REMARKS

As a preliminary matter, Applicant has amended the specification. In Applicants' invention, the threshold values are increased as long as the previous pattern quantization value is identical to the current pattern quantization value. *See* Step 110, Fig. 1; page 8, line 16 - page 9, line 5. Thus, Applicants have replaced "until" with --while-- in the specification and in the claims, as set out above.

The Examiner has objected to the drawings. Specifically, the Examiner states that the full details of the calculation of pattern quantizing value must be shown or the feature(s) cancelled from the claims. In response to the objection to the drawings, Applicants argue that the calculation of pattern quantization value is a conventional feature disclosed in the description and the claims (Page 6, lines 11-15), and that their detailed illustration is not essential for a proper understanding of the invention. *See* M.P.E.P. 608.02(d). Thus, a drawing in the form of a labeled representation, as shown in FIGS. 1 and 2, is sufficient. *See id.*

Claims 1, 3, 5 and 8-10 are objected to because the terminology "denoised" or "denoising" is alleged by the Examiner as not being a proper English word. Applicants submit that "denoising" is a term of art well-known to those skilled in the art. For example, the Introduction of Mu-Yen Chen, et al., *Radar Image Denoising By Recursive Thresholding*, Proceedings of the International Conference on Image Processing Lausanne, September 16-19, 1996, submitted with the IDS of May 21, 2003, discloses that "[w]avelet based denoising techniques have received an increasing attention over the past years."

12

Turning to the rejections of the claims, claims 1-10 are pending in the application.

Claims 1-10 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the

enablement requirement. Claims 1-10 are rejected under 35 U.S.C. § 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which

Applicant regards as the invention. Claims 1, 5 and 9-10 are rejected under 35 U.S.C. § 102(b)

as being anticipated by Nakagawa (U.S. Patent No. 5,291,282). Claims 2 and 6 are rejected

under 35 U.S.C. §103(a) as being unpatentable over Nakagawa as applied to claim 1 above, and

further in view of Acharya (U.S. Patent No. 6,574,374). Applicants have added new claim 11

and submits the following in traversal of the rejections.

Rejection of Claims 1-10 Under § 112, First Paragraph

The Examiner alleges that the claims contain subject matter which was not described in

the Specification in such a way as to enable one skilled in the art to which it pertains, or with

which it is most nearly connected, to make and/or use the invention. Specifically, the Examiner

alleges that the term "pattern quantizing value" is not clearly disclosed in the Specification. In

response, Applicants respectfully submit that the Specification discloses a counting algorithm

(page 6, lines 12-13) and a digitization algorithm (page 10, line 9) as examples of methods for

determining a pattern quantizing value.

In an embodiment, Applicants submit that, initially, a pattern quantization value is

calculated as a previously quantized value (Fig. 1, step 103). After the projected image is

decomposed down one level (step 104), the image is denoised using a predetermined threshold

value (step 106). Another pattern quantization value is calculated to be the current quantizing

value (step 108). In "[t]he case where the previous quantizing value is identical to the current

quantizing value," the "pattern regularity has not changed and has been retained even though the

data has been denoised using the corresponding threshold value." Page 8, lines 17-20.

"Therefore, if the previous pattern quantizing value is identical to the current pattern quantizing

value, the threshold value is increased (step 112) to perform step (106)," to repeat the denoising

at an increased threshold value. Page 8, lines 13-20 and page 9, lines 3-5.

Rejection of Claims 1-10 Under § 112, Second Paragraph

Applicants submit that the above explanations of the pattern quantizing value explain the

terminology and the calculation of pattern quantizing value. Applicants also submit that the

above explanations of how the threshold value works in conjunction with pattern quantizing

value obviates the rejections of the claims under § 112, second paragraph.

Rejection of Claims 1, 5 and 9-10 Under § 102(b) by Nakagawa

Applicants submit that claim 1 is believed to be patentable because each and every

element of the claim is not disclosed or suggested by Nakagawa. For example, Nakagawa fails

to disclose or suggest a method of describing pattern repetitiveness of an image comprising the

steps of: "(a) projecting an image on a predetermined axis having a predetermined direction," in

combination with other elements of the claim. Although the Examiner cites the DCT shown in

Fig. 5, there is no disclosure or suggestion of projecting an image on a predetermined axis having

a predetermined direction. Rather, DCT generally involves the calculation of a frequency

spectrum by correlating pixel groups with a corresponding basis function without any sort of

projection of an image on any predetermined axis.

In addition, Nakagawa fails to disclose or suggest increasing a threshold value while a pattern quantizing value is retained, and denoising the decomposed data, in combination with other elements of the claim. In the sections of the reference cited by the Examiner, check processing is repeatedly performed to determine an optimal quantization width coefficient α. The check processing is performed until "the amount of codes *approaches* close enough to the target amount of codes by the check processing." Col. 30, lines 63-65 (emphasis added). In other words, the criteria for repetitively performing check processing is if a calculated amount of codes approaches a target amount of codes. Whether the calculated amount of codes retains a particular amount, i.e., whether the calculated amount of codes remains the same, is *not* a criteria for repetitively performing check processing in Nakagawa. In contrast, claim 1 recites that a threshold value is increased while a pattern quantizing value is retained.

Therefore, for the above reasons, each and every element of claim 1 is not disclosed or suggested by Nakagawa, and thus, claim 1 is believed to be patentable.

For reasons similar to those submitted for the patentability of claim 1, claims 5, 9, and 10 are believed to be patentable.

In addition to, or alternatively, claim 9 is believed to be patentable because Nakagawa fails to disclose or suggest grouping images having similar texture characteristics using the pattern repetitiveness descriptors of the images.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/822,838

<u>Rejection of Claims 2 and 6 Under §103(a) Over Nakagawa in View of Acharya</u>
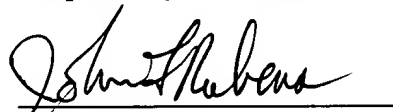
Claims 2 and 6, which depend from claims 1 and 5, are believed to be patentable for at least the reasons submitted for claim 1 and because Acharya fails to make up for the deficiencies of Nakagawa.

New claim 11 is added to more fully claim the invention and is fully supported in the original disclosure.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

John F. Rabena
Registration No. 38,584

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: July 21, 2004

16